

AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application:

The Claims:

1. **(Currently Amended)** A system for assessing a response of blood circulation in a ~~subject's limb of a subject to postural change~~, comprising:

~~detection means for detecting~~ pre-processing circuitry configured to detect a signal dependent upon ~~[[the]]~~ an arterial blood volume in ~~[[a]]~~ the limb of the subject when the subject is in a first posture and also when the subject is in a second posture, different to the first posture; and

~~processing means for calculating~~ processing circuitry configured to calculate a quantitative indicator that is dependent upon ~~[[the]]~~ a ratio of the detected signal for the first posture to the detected signal for the second posture.

2. (Previously Presented) A system as claimed in claim 1, wherein the quantitative indicator is directly proportional to the ratio of the signal for the first posture to the signal for the second posture.

3. **(Currently Amended)** A system as claimed in claim 1, wherein the detected signal dependent upon the arterial blood volume of the limb is a pulsating component of a measured parameter, the measured parameter being dependent upon the blood volume in the ~~subject's~~ limb.

4. (Previously Presented) A system as claimed in claim 3, wherein the calculation of the quantitative indicator is additionally dependent upon the ratio of a non-pulsating component of the measured parameter for the second posture to a non-pulsating component of the measured parameter for the first posture.

5. (Previously Presented) A system as claimed in claim 4, wherein the quantitative indicator is directly proportional to the ratio of the non-pulsating component of the measured

parameter for the second posture to the non-pulsating component of the measured parameter for the first posture.

6. **(Currently Amended)** A system as claimed in claim 1, ~~wherein the detection means comprises measurement means operable~~ comprising at least one sensor configured to measure a parameter indicative of the blood volume of the ~~subject's~~ limb when the subject is in a first posture and to measure the parameter when the subject is in a second posture and ~~comprising means for isolating~~ circuitry configured to isolate a pulsating component of the measured parameter.

7. (Previously Presented) A system as claimed in claim 1 wherein the limb is a foot.

8. (Previously Presented) A system as claimed in claim 1, wherein the position of the limb is changed between the first posture and the second posture.

9. (Previously Presented) A system as claimed in claim 1, wherein, in the first posture the limb is at a first elevation and in the second posture the limb is at a second elevation.

10. (Previously Presented) A system as claimed in claim 3, wherein the measured parameter is the intensity of light reflected from the limb and the ratio of the signal for the first posture to the signal for the second posture reduces subject dependent influences such as variable light absorption of the blood and tissue in the limb for different subjects.

11. **(Currently Amended)** A method for assessing blood circulation in a ~~subject's~~ limb of a subject, comprising:

detecting a signal dependent upon ~~[[the]]~~ an arterial blood volume in ~~[[a]]~~ the limb of the subject when the subject is in a first posture;

detecting ~~[[the]]~~ a signal dependent upon the arterial blood volume in the limb of the subject when the subject is in a second posture, different to the first posture; and

using a processor to calculate ~~ealeulating~~ a quantitative indicator that is dependent upon ~~[[the]]~~ a ratio of the signal for the first posture to the signal for the second posture.

12. **(Currently Amended)** A method as claimed in claim 11, further comprising:
measuring a parameter that is dependent upon the blood volume in the ~~subject's~~ limb; and
isolating, as the signal, a pulsating component of the measured parameter.

13. (Previously Presented) A method as claimed in claim 12, further comprising:
isolating a non-pulsating component of the measured parameter, wherein the quantitative
indicator is additionally dependent upon the ratio of the non-pulsating component of the
measured parameter for the second posture to the non-pulsating component of the measured
parameter for the first posture.

14. (Previously Presented) A method as claimed in claim 13, wherein the limb is a foot.

15. (Previously Presented) A method as claimed in claim 11, wherein the position of the
limb is changed between the first posture and the second posture.

16. (Previously Presented) A method as claimed in claim 11 wherein, in the first posture
the limb is at a first elevation and in the second posture the limb is at a second elevation.

17. **(Currently Amended)** A system for assessing a ~~subject's~~ peripheral blood circulation
of a limb of a subject, comprising:

~~measurement means for measuring~~ a sensor configured to measure a parameter dependent
upon ~~[[the]]~~ a blood volume in ~~[[a]]~~ the limb of the subject when the subject is in a first
posture and also when the subject is in a second posture, different to the first posture;

~~means for separating~~ circuitry configured to separate the parameter into a first component
and a second component; and

~~processing means for calculating~~ a processor configured to calculate a quantitative
indicator wherein the calculation takes as inputs the first component of the parameter for the
first posture and the first component of the parameter for the second posture.

18. (Original) A system as claimed in claim 17, wherein the first component is a pulsating component and the second component is non-pulsating component.

19. (Currently Amended) A system as claimed in claim 17, wherein the quantitative indicator is dependent upon the ratio of the first component of the parameter for the first posture to the first component of the parameter for the second posture.

20. (Currently Amended) A system as claimed in claim 19, wherein the quantitative indicator is directly proportional to the ratio of the first component of the parameter for the first posture to the first component of the parameter for the second posture.

21. (Currently Amended) A system as claimed in claim 17, wherein the quantitative indicator is dependent upon the ratio of the second component of the parameter for the second posture to the second component of the parameter for the first posture.

22. (Original) A system as claimed in claim 21, wherein the indicator is directly proportional to the ratio of the second component of the parameter for the second posture to the second component of the parameter for the first posture.

23. (Previously Presented) A system as claimed in claim 17, wherein the measured parameter is intensity of light.

24-26. (Canceled).

27. (Currently Amended) A method for assessing a subject's peripheral blood circulation, comprising:

measuring a parameter dependent upon ~~[[the]]~~ a blood volume in a limb of ~~[[the]]~~ a subject when the subject is in a first posture and also when the subject is in a second posture, different to the first posture;

separating the parameter into a first component and a second component; and

~~processing means for calculating~~ using a processor to calculate a quantitative indicator wherein the calculation takes as inputs the first component of the parameter for the first posture and the first component of the parameter for the second posture.

28. (Original) A method as claimed in claim 27, wherein the first component is a pulsating component and the second component is non-pulsating component.

29. (Original) A method as claimed in claim 27, wherein the indicator is dependent upon the ratio of the first component of the parameter for the first posture to the first component of the parameter for the second posture.

30. (Currently Amended) A system for assessing blood circulation in a subject's limb of a subject, comprising:

a sensor configured ~~measurement means operable~~ to measure a parameter indicative of ~~[[the]]~~ a blood volume of the subject's limb when the subject is in a first posture and to measure the parameter when the subject is in a second posture and comprising ~~means for isolating~~ circuitry configured to isolate a variable value of the measured parameter; and

~~processing means for determining~~ a processor configured to determine a quantitative indicator that is dependent upon ~~[[the]]~~ a ratio of the isolated variable value of the parameter measured for the first posture to the isolated variable value of the parameter measured for the second posture.

31. (Previously Presented) A system as claimed in claim 30, wherein the limb is a foot.

32. (Previously Presented) A system as claimed in claim 30, wherein the first posture the limb is at a first elevation and in the second posture the limb is at a second elevation.

33. (Currently Amended) A system as claimed in claim 30, wherein the ~~measurement means~~ sensor comprises ~~light sensing means~~ a light sensor and the parameter is the intensity of light reflected from the limb.

34. **(Currently Amended)** A system as claimed in claim 33, wherein the ~~measurement~~ means sensor additionally comprises an illumination source of fixed intensity.

35. **(Currently Amended)** A ~~system~~ method for assessing blood circulation in a ~~subject's~~ limb of a subject, comprising:

measuring a parameter indicative of ~~[[the]]~~ a blood volume of the ~~subject's~~ limb when the subject is in a first posture and isolating a variable value of the parameter measured for the first posture;

measuring the parameter indicative of the blood volume of the ~~subject's~~ limb when the subject is in a second posture

isolating a time-variable value of the parameter measured for the second posture;

~~determining using an apparatus to determine~~ a quantitative indicator that is dependent upon the ratio of the ~~variable~~ time-variable value of the parameter measured for the first posture to the ~~variable~~ time-variable value of the parameter measured for the second posture.

36-42. (Canceled).

43. **(New)** A system comprising:

a first sensor configured to measure a first optical parameter dependent upon a blood volume when a subject is in a first posture and also when the subject is in a second posture;

a second sensor configured to measure a second optical parameter, different to the first optical parameter, when the subject is in the first posture and also when the subject is in the second posture; and

circuitry configured to calculate one or more quantitative indicators based on the first parameter for the first posture, the first parameter for the second posture, the second parameter for the first posture, and the second parameter for the second posture.

44. **(New)** A system comprising:

analyzing light reflected from a limb of a subject when the subject is in a first posture to determine a quantitative value for blanching of the limb in the first posture; and

S.N.: 10/584,179
Art Unit: 3735

884B.0003.U1 (US)

analyzing light reflected from the limb of the subject when the subject is in a second posture to determine a quantitative value for blanching of the limb in the second posture.